

AD-A195 235

DTIC FILE COPY

2

STUDY
PROJECT

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

"AIRLAND BATTLE PREPARATION: HAVE WE FORGOTTEN
TO TRAIN THE DISMOUNTED MECHANIZED INFANTRYMAN?"

BY

LIEUTENANT COLONEL THEODORE R. SEVERN, IN

DISTRIBUTION STATEMENT A: Approved for public
release; distribution is unlimited.

30 MARCH 1988

DTIC
ELECTE
JUL 05 1988
S E D



U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

88 7 05 085

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) "Airland Battle Preparation: Have We Forgotten to Train the Dismounted Mechanized Infantryman?"		5. TYPE OF REPORT & PERIOD COVERED Study Project
7. AUTHOR(s) LTC THEODORE R. SEVERN		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS USAWC Carlisle Barracks, PA 17013		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS SAME		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE 30 March 1988
		13. NUMBER OF PAGES 51
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution is unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) SEE REVERSE OF THIS SHEET		

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

Modern mechanized warfare came of age during World War II, exemplified by the crack German Panzer Divisions under the command of Field Marshall Erwin Rommel. U.S. mechanized doctrine began to evolve at about the same time and has been refined to the point where tanks and accompanying mechanized infantry units will compliment each other for the foreseeable future. As we field the Bradley Fighting Vehicle, however, new challenges face the infantry community. Bradley leaders contend that focus on crew gunnery and vehicle maintenance, combined with a limited time resource, cause erosion of traditional dismounted skills. To overcome this weakness immediately, unit leaders must establish solid long and short range training plans, plan for FTX's, use opportunity training for dismounted skills, and introduce more imaginative qualification ranges. For longer range impact, the Infantry School needs to consider adopting the "element" fighting concept, training strategy, and unit organization. Additionally, Bradley gunnery tables should focus on "element" proficiency through TABLE VIII, culminating in a combined qualification on TABLE XII. Both long and short range proposals will allow mechanized infantrymen to sustain their dismounted proficiency and win the next ground war.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

UNCLASSIFIED

USAWC MILITARY STUDIES PROGRAM PAPER

"AIRLAND BATTLE PREPARATION: HAVE WE FORGOTTEN
TO TRAIN THE DISMOUNTED MECHANIZED INFANTRYMAN?"

AN INDIVIDUAL STUDY PROJECT

by

LTC Theodore R. Severn, IN

Col James F. Schoonover, Jr., IN
Adviser

**DISTRIBUTION STATEMENT A: Approved for public
release; distribution is unlimited.**

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013
30 March 1988

UNCLASSIFIED

The views expressed in this paper are those of the
author and do not necessarily reflect the views of
the Department of Defense or any of its agencies.
This document may not be released for open publication
until it has been cleared by the appropriate military
service or government agency.

ABSTRACT

AUTHOR: LTC Theodore R. Severn, IN

TITLE: "Airland Battle Preparation: Have We Forgotten To Train the Dismounted Mechanized Infantryman?"

FORMAT: Individual Study Project

DATE: 30 March 1988 PAGES: 47 CLASSIFICATION: Unclassified

Modern mechanized warfare came of age during World War II, exemplified by the crack German Panzer Divisions under the command of Field Marshall Erwin Rommel. U.S. mechanized doctrine began to evolve at about the same time and has been refined to the point where tanks and accompanying mechanized infantry units will compliment each other for the foreseeable future. As we field the Bradley Fighting Vehicle, however, new challenges face the infantry community. Bradley leaders contend that focus on crew gunnery and vehicle maintenance, combined with a limited time resource, cause erosion of traditional dismounted skills. To overcome this weakness immediately, unit leaders must establish solid long and short range training plans, plan for FTX's, use opportunity training for dismounted skills, and introduce more imaginative qualification ranges. For longer range impact, the Infantry School needs to consider adopting the "element" fighting concept, training strategy, and unit organization. Additionally, Bradley gunnery tables should focus on "element" proficiency through TABLE VIII, culminating in a combined qualification on TABLE XII. Both long and short range proposals will allow mechanized infantrymen to sustain their dismounted proficiency and win the next ground war.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
THESIS	iv
CHAPTER I. INTRODUCTION	1
II. HISTORICAL PERSPECTIVE	4
III. CURRENT AIRLAND BATTLE DOCTRINE	9
IV. SQUAD SIZE	11
V. TRAINING: UNIT REALITY	14
VI. IMMEDIATE PROPOSALS	20
VII. ISSUES	27
VIII. LONG RANGE PROPOSALS/RECOMMENDATIONS	40
IX. CONCLUSION	42
APPENDIX 1 BRADLEY GUNNERY CONCEPT	43
FOOTNOTES	44
BIBLIOGRAPHY	46

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	



THESIS

Current AIRLAND Battle Doctrine, as espoused in U.S. Army Operations Manual FM 100-5, calls for today's dismounted mechanized infantryman to perform an entire spectrum of tasks which are equally as important now as during any other time in history.¹ Yet Bradley equipped unit leaders indicate that the skills required to perform dismounted tasks are drastically impaired due to the majority of resources being expended in focusing the training effort on crew gunnery and maintenance. The dismounted infantryman has consequently been neglected, and over time this has caused significant decay of dismounted skills.² If we (the Army) are to win the next war, we must reverse this trend now!

CHAPTER I
INTRODUCTION

Time: 0530 hours, at some point in the near future.

Place: South of the Fulda Gap along the East-West German border in the densely forested Rohn Mountains. "Delta 6, this is Victor 6, sit-rep over." "This is Delta 6, roger, covering force has completed passage; the enemy is in hot pursuit; estimate enemy in this section at Battalion size, break." "Vehicles consist of BMP's with a sprinkling of T-80's, break." "Enemy vehicles currently 500 meters short of my kill zone; am moving Bradley's forward to firing position, break." "Two platoons of dismounted infantry in position, wooded right flank of battle position 20 per your request to protect against a possible dismounted infantry attack there, break." Request permission to fire at will once the enemy enters my kill zone, over." "Victor 6, roger, permission granted, keep me . . ."

Suddenly, wham! Battle position 20 erupts as heavy enemy artillery slams into the position, seemingly crumbling the entire hillside. Screams of fear and agony sing out as Team Delta suffers its first casualties. American infantrymen struggle to don their protective masks amidst hot flying shrapnel, deafening noise, dense smoke, and the thick smell of cordite and something chemical. Despite total confusion, several alert riflemen look up in time to see through the dense haze and newly twisted forest the ghost-like outline of

scores of dismounted enemy infantry moving in their direction. With guts wrenching, they yell out a muffled warning. Delta 6 sees quickly that this close-in dismounted attack is being conducted in concert with a mounted attack in the bowl below, and orders his Bradley's to fire at will. Some of Team Delta's infantrymen are too stunned or scared to return fire; others panic and fire high. Leaving mounted fire control to his XO, Delta 6 attempts to maneuver against the enemy, but quickly realizes that his soldiers really don't understand the concept of dismounted fire and maneuver, and don't move at all well in squad formations. "Why should they," he thinks, "we never practiced that in training." They also exhibit poor small arms marksmanship and fire distribution/control. Suddenly, another explosion. Delta 6 feels himself thrown into the air like a rag doll, hitting the ground with searing pain in his head and chest. He quickly seizes the hand mike from his dead RTO and orders his Bradleys back to the next battle position. Just before he passes out, with enemy infantry now crawling freely all over battle position 20, he thinks, "Damn, this wasn't like it was supposed to happen; not like our training at Graf and Hohenfels. The [technology of the] turret system just doesn't help much in the close in fight. Why wasn't I more persistent in convincing the old man that we needed more training time on . . . dismounted . . . skills . . .?"

Can this really happen? Are we losing touch with our dismounted skills throughout the U.S. Army Mechanized Infantry? Don't be so quick to say no; take a **good, hard** look!

In the chapters which follow, I will discuss that question as well as related issues, and possible solutions. By way of background, however, it is essential to first examine the role of mechanized infantry from an historical perspective, followed by a verification of that role through a review of current mechanized infantry AirLand Battle Doctrine. It is also vitally important to consider briefly the impact of squad size on dismounted training. Keep in mind that opinions rendered in this paper are the result of twenty years of experience in the infantry business, culminating in research for this paper and in the referenced field trip to Ft. Benning, as well as the Bradley Gunnery Seminar with former battalion commanders. During the research process, I found overwhelming support for my views from officers and NCO's alike.

CHAPTER II

HISTORICAL AND DOCTRINAL PERSPECTIVE

Historically, the value of the dismounted infantry soldier in modern warfare is well recognized. In his book, A Perspective on Infantry, John A. English wrote:

. . . small groups of determined infantrymen on a road to Moscow or on a hill in Korea have been able to influence the fate of nations out of all proportion to their numbers. In World War II, to paraphrase Marshall, it was demonstrated time and again that a handful of men at a certain point at a given hour exerted a more powerful influence on a battle than ten times that number 24 hours later. By prompt and imaginative action, lone riflemen and companies sometimes diverted whole enemy corps, while a machine-gun squad at a roadblock began the defeat of an armored division. In short, though mass was there somewhere in support, many great victories pivoted upon the fire action of a very few. For the infantry soldier, the major lesson of World War II minor tactics was the overpowering effect of relatively small amounts of fire when delivered from the right ground and the right hour.³

When looking specifically at the evolutionary value of mechanized infantry, we must start with the thoughts of British historian and doctrineer, Liddel Hart. After analyzing World War I battles, he stated that the true function of the infantry was to discourage resistance and prepare the way for decision. He advocated right actions and the development of new fighting aids such as artificial moonlight and artificial fog. He further argued ". . . that one could not 'expect mobility on the battlefield unless the man who fights on foot is given the chance to be mobile.'"⁴ He believed that the mounted arm was

the decisive arm because it could move quicker. He recommended splitting the infantry into heavy and light forces.⁵

Across the channel, young CPT Hans Guderian became an avid proponent of Hart's [mechanized] philosophy. Guderian's subsequent influence on the emerging powerful German Army of World War II with respect to doctrine and organization was significant, with the end result being formation of the crack German Panzer Divisions, consisting of a fifty-fifty split of tanks and [mechanized] infantry.⁶ Under the command of Field Marshall Erwin Rommel, these Panzer Divisions executed modern warfare magnificently early-on in World War II, with shock action as their key ingredient. They ". . . exalted tremendous mobility and maneuver; even within the smallest units in large-scale attacks . . ."⁷ They ". . . envisioned their . . . approach to combat as merging into a series of local actions, followed by a steady progression through the enemy position by infiltration and outflanking centers of resistance. In this scenario, [even] the small infantry section [squad] figured prominently . . ." as it moved rapidly to the area of resistance, dismounting to accomplish on foot those things infantry soldiers have traditionally done through the years--closing with and destroying the enemy.⁸ This principle of rapid movement was employed equally as well in the offense and defense.

Perhaps the best World War II example of mechanized infantry employed both effectively and ineffectively can be found in a brief analysis of operation "Goodwood." This

operation was designed so that allied forces could break out of the Normandy Beachhead in Summer 1944. The operation

. . . was launched by the British on 18 July, with LTG Richard O'Connor's mighty Eighth Corps, consisting of three entirely armored divisions, striking east and south of Caen on a narrow front. The object of "Goodwood" was to engage the German armor in battle and [attrit] it to such an extent that it was of no further value to the Germans as a basis of the battle. Although it did ultimately tie up seven of the nine panzer divisions available to the Germans, thereby making Patton's future breakout possible, the operation actually [attrited] more British armor than German. In 72 hours, Eighth Corps incurred 300 tank casualties. Strong point defense in depth . . .

"

was key for the Germans.⁹ In this instance, Rommel ". . . rapidly moved his [mechanized] infantry forward, and . . . arranged the defense in five zones based on fortified villages and well dug in gun positions." Each zone ". . . was essentially a 'cushion' of . . . small villages, each garrisoned by an infantry company and three or four antitank guns." "Despite an aerial 'carpet' bombardment of unprecedented ferocity (2,000 bombers in two hours), the British [armour] could not clear the enemy infantry and antitank guns from such strongholds, and German 88's consequently began to exact their toll."¹⁰

"Unquestionably, 'Goodwood' failed due to lack of sufficient British Infantry, without which fortified strong points could not be mopped-up quickly enough, or German infiltrating counteractions prevented. The one infantry battalion [available during the operation] was found to be inadequate for carrying out the [magnitude of] infantry tasks required. Furthermore, the [mechanized] infantry brigades during the 'Goodwood'

action had been kept too far back to do much good."¹¹ The lessons learned were obvious. The Germans used mechanized infantry effectively in a dismounted role, outwitting a pure heavy armor force. On the other hand, British Commanders could have used a combined force of mechanized infantry and armor effectively, instead they elected to employ armor by itself, and consequently suffered heavy armor losses unnecessarily.

With respect to the development of U.S. mechanized forces specifically, the Army began by taking a hard look at successful panzer operations. The end result was a modification of U.S. doctrine calling for development of mounted infantry to be transported in something other than trucks. In July 1940, "armored infantry" emerged as a concept allowing infantry soldiers to move rapidly into battle with tanks while being transported in their own organic M3 half-track carriers.¹² This enabled the American Army, too, to have panzer-like units capable of moving infantry rapidly to the location of the dismounted fight. These forces first tasted the sting of battle several years later in North Africa, but didn't do well initially. Upon assuming command of this unit and quickly analyzing past poor performance in battle, General George Patton concluded that early combat failure of the "Armored Infantry" was due to poor leadership, not a faulty concept.¹³ Subsequent operations under strong leadership were consequently quite successful. In fact, refinement of armored infantry operations proceeded steadily throughout the remainder of the

war and resulted in ever increasing successes. By the end of the war, it was quite obvious that these mobile hybrid forces changed forever the concept of U.S. Infantry employment. "Armored Infantry" was here to stay!

As mechanized infantry doctrine matured following World War II, the single overriding imperative for employment of forces (capturing fully the lessons of World War II), was that tanks could not expect to operate and survive in combat without accompanying infantry for close-in protection. That imperative was tested most recently during the 1973 Arab-Israeli war, when Israeli armor suffered massive casualties early-on while operating without the protection of accompanying mechanized infantry forces. Pure tank forces simply could not root-out and destroy close-in dismounted Egyptian infantry. However, failure turned quickly into success when the Israeli's adjusted their organization to include a complementary force of armor and mechanized infantry fighting side by side.¹⁴ Again, the value of dismounted mechanized infantry forces operating with tanks was proven to be invaluable and absolutely essential for future operations. This concept made such an impact on Israeli doctrine that their latest tank, the MERKEVA, was designed specifically to carry a rifle team of infantry in the rear compartment of the vehicle.

CHAPTER III

CURRENT AIRLAND BATTLE DOCTRINE

The role of today's mechanized infantry is more important than ever before, with the U.S. Army facing as its main threat the heavy armored and mechanized armies of the Soviet Union. To control the battlefield, our leaders have determined that the U.S. Army must meet the Soviet threat with similar forces. Consequently, 9 of 16 of our active duty divisions are mechanized infantry or armored divisions, each with a substantial number of organic mechanized infantry battalions. Additionally, a good proportion of our reserve component forces consist of mechanized infantry or armored units. Current AirLand Battle Doctrine reflects and supports this force structure and all that we have learned from an historical perspective. AirLand Battle Doctrine also discusses the possibility of deploying U.S. forces anywhere in the world, with primary focus on Europe and the Middle East. Specifically, AirLand Battle Doctrine calls for mechanized infantry to complement

. . . armor through its ability to seize and hold ground. It provides overwatching antitank fires and suppresses enemy infantry and antitank guided missile elements. Infantrymen would dismount:

- To patrol difficult terrain
- To clear or to emplace obstacles and minefields
- To infiltrate and attack enemy positions
- To protect tanks in urban and wooded areas and limited-visibility conditions.

Mechanized infantrymen have the same mobility as tankers but less fire power and protection. Armor and mechanized infantry must perform as a team to defeat enemy armored

forces. When equipped with Infantry Fighting Vehicles (Bradleys), the mechanized infantry can accompany tanks in mounted assault, although care must be taken in determining when and where infantry must dismount to accomplish their mission. In the attack, such infantrymen can act as firing forces. In the defense, they act as pivot points for maneuvering tank heavy forces.¹⁵

In a recent Army Times article, MG Kenneth C. Leuer, Commandant, U.S. Army Infantry School (USAIS), underscored the importance of mechanized infantry in today's AirLand Battle Doctrine by discussing the role of tanks and Bradley infantrymen. He stated that to take full advantage of firepower and mobility, the dismounted infantryman is required to ". . . secure built-up areas, . . . wooded areas, . . . high ground, . . . choke points . . . and . . . barrier clearing . . . so you can take that high speed and high firepower and move it. That's how you bring this mass of firepower quickly to the point of decision . . ." against today's threat force.¹⁶

So for the foreseeable future, it appears that "mechanized infantrymen will play a vital role when executing AirLand Battle Doctrine. General Leuer sums it up best when he states that . . . 'the Bradley . . . has that mission of protecting the troops, to haul them to the critical point of battle so they can fight their infantry tasks which are normally done dismounted.'"¹⁷

CHAPTER IV

SQUAD SIZE

In the second and third chapters, we reviewed, through recent history, the evolution of the role of mechanized infantry forces in warfare. Furthermore, we determined that those forces continue to impact today as reflected in current AirLand Battle Doctrine. As a logical step to discussing the training of mechanized infantry forces in subsequent chapters, let's consider for a moment problems associated with the current 9 man mechanized infantry squad.

Much controversy has surrounded squad size for years. In fact, over the past 30 years, no less than five studies have been conducted by the Infantry School in an attempt to determine the ultimate squad composition. Most notably, the 1972 Infantry Rifle Unit Study (IRUS) concluded that the optimum size was 11 men, and a 1978 study concluded that a Bradley equipped force with an 11 man squad was the most effective, while a 9 man squad was least effective but still capable of accomplishing its mission. The squad size controversy reached an all time high when, in the early 1980's, the Army decided to field Bradley equipped units with 9 man squads.¹⁸ Despite this formal decision, the main issue among all mechanized infantry leaders with whom I spoke (regardless of rank), continues to be overriding concern that the 9 man squad doesn't provide

enough dismounted manpower to do the job, especially when considering combat casualties.¹⁹

The earlier IRUS study supports that concern. IRUS included a look at previous U.S. wars, where infantry squads were only 70-80% filled due to illness, sustainment of casualties, and other personnel turbulence. An 8 or 9^{man} squad in prolonged combat could barely accomplish its mission. When applying the same fill ratio to a 9 man Bradley squad in combat, it would mean manning each vehicle with 6 or 7 soldiers. When considering that Bradley doctrine dictates leaving the crew (driver, gunner, and commander) with the vehicle in most tactical situations, that points to a 9-12 man dismounted platoon, and a 36-48 man company, not including FO's, RTO's, and medics. A once formidable dismount force seems barely adequate today. In fact, the 1978 study determined that once Bradley squad strength attrited below 9 men, it was no longer capable of accomplishing its mission.²⁰ General Leuer recently expressed his concern about the matter, but took the issue one step further. Just as importantly, he expressed concern regarding training squads for combat, contending that most of the time leaders can't get 9 men per squad present for training, thus impacting on unit integrity and on true combat readiness. As a result, he wants to return to the 11 man squad.²¹

While it appears that the squad size issue will not be resolved in the near future, it is clear that those few precious infantrymen we have left in the squad must really be well

trained in order to accomplish the same tasks on the ground that were achieved by the 11 and 12 man squads of yesteryear. Mechanized infantry training, then, must focus on optimum squad presence at every training event, and refinement to perfection of Mission Essential Task List (METL) derived battlefield tasks through repetitive training.

CHAPTER V

TRAINING: UNIT REALITY

Training M113 equipped infantry units was challenge enough, but now that the Bradley has been introduced, the infantry has entered a new era, increasing the training challenge significantly. There are well over 100 additional tasks for Bradley infantrymen to learn, beyond what is required of airborne, light, or airmobile infantrymen. Additionally, the Bradley comes with a turret equipped with three sophisticated weapon systems, an integrated sight unit, and an appreciable gain in task load. On top of that, Bradley infantrymen must constantly be prepared to integrate the vehicle and dismount team in any number of tactical situations. The Bradley platoon is now expected to be equally proficient at executing the dismounted skills of a light infantry platoon, the mounted and gunnery skills of an Armor platoon, and the anti-tank skills required of an Improved Tow Vehicle Platoon. The single most pressing challenge for Bradley leaders is to design training programs and allocate resources which support sustaining proficiency in all areas. This becomes especially frustrating when considering the increased number of tasks to train. During recent interviews with a considerable number of former mechanized infantry battalion commanders, company grade officers, NCO's, and Infantry School master gunners, all expressed

frustration over this phenomenon as well as over a wide variety of training distractors. What happens in most Bradley units, as a consequence, is that focus on crew training and vehicle maintenance draws attention away from training the dismount element. The result is erosion of dismounted skills. Listed below is a summary of distractors most frequently described by the above group as impacting on dismounted training.²²

- Personnel Turbulence: 11-20% turnover per quarter (which seems to be common) makes it extremely challenging for leaders to mold close-knit, well-trained squads capable of executing battle drill fundamentals to standard. Unit integrity is continually chipped away.
- Training Decay: Soldiers must continually practice their trade to sustain proficiency. When training is broken by long periods of time without practice, for whatever reason, basic skills decay rapidly and teamwork becomes sluggish. Battalion commanders indicate there are too many uncontrollable breaks in the training cycle.
- Focus on Crew Training and Gunnery: Crew training in preparation for gunnery tables requires so much time and effort that leaders are distracted from training the dismounted element. In other words, the dismounted element simply does not get enough focus or supervision during crew gunnery preparation and training, which seems to occupy most of the

time. This includes dismounted infantrymen frequently pulling guard and detail duty for vehicle crew members to allow the completion of preliminary gunnery training, and work detail on live fire gunnery ranges in support of vehicle crew training.

- Inexperienced Leaders: Junior leaders get so bogged down with the above issues that they don't maximize use of available training windows to train the dismounted element, and consequently never become experienced on the ground themselves. Some senior leaders fear that the Army has grown a whole new generation of Bradley raised company grade officers and NCO's who have spent so much time on turret proficiency and maintenance that they have lost forever the ability to conduct, teach, and coach dismounted maneuver.
- Limited Training Evaluation: Most leaders believe that a test in the form of a graduation exercise drives training proficiency. In other words, soldiers train harder knowing that they are going to be evaluated formally in the end. It is a concept which began during World War II and is the foundation of the U.S. Army training program today as reflected in the SQT, Gunnery Tables, and ARTEP. Yet the key test for a Bradley squad, Table VIII, lists the dismounted portion as optional. In fact, FM 23-1,

Bradley Fighting Vehicle Gunnery, titles Table VIII as a "Vehicle Team Qualification." Table XII C and D, Infantry Platoon Qualification, calls for a dismount portion, but it is extremely limited, and ends up a target hit exercise only.²³ As run on most ranges, neither table is conducive to enhancing the principles of fire and maneuver. In fact, time constraints on most qualification ranges discourage large segments of any given exercise to be devoted to other than crew events. Europe specifically has a real challenge in this area, exacerbated by bare, sterile ranges which do not lend themselves to realistic dismounted maneuver. The end result is a dismount team which rides along in the back end of a Bradley until arriving at a predesignated firing position. The squad then exits the Bradley, fires at a limited array of targets, and remounts for the remainder of the exercise. Since dismounted maneuver is not evaluated most of the time, bad habits picked up during limited training are reinforced during exercise evaluation.

- Inadequate Training Planning and Execution: Many units do not conduct an adequate METL analysis on which to base short and long range training programs. Consequently, training never becomes fully focused. Other units plan well but execute poorly, especially

when allowing training distractors to interfere with the training program.

- Misuse of Soldiers During Scheduled Maintenance Time: Certainly there are times when the entire squad must be in the motor pool to learn about or conduct some aspect of vehicle maintenance. Frequently, however, there are many hours of wasted time in the motor pool for the dismounted team when, if planned properly, the dismounted team could have been released for training on dismounted skills elsewhere.

In reality, then, training of the dismounted infantryman has been and continues to be subordinated to a variety of distractors. It seems that we **are** forgetting the dismounted infantryman as we train for war. This trend must be reversed now. The key lies with each one of us as trainers and, from my perspective, can be corrected immediately through application of leadership focus in two important areas: (1) We must make BTMS work in our units; (2) We must introduce innovative approaches to our current training framework, to include capturing every available training window. Other training distractors will take longer to sort through, and may impact on squad/platoon organization, and a slightly different approach to training strategy. In the chapters which follow, my intention is to walk through immediate and long range proposals for overcoming training distractors, which will allow us to get on

with the business of creating better training for our dismounted infantrymen.

CHAPTER VI
IMMEDIATE PROPOSALS

The first series of proposals deals with those training distractors which I believe can be overcome immediately through leadership focus within the unit. They run the gamut from improving training plans, to making better use of available time and ranges, and are discussed in detail below.²⁴

- Establish Well Planned Training Plans. In order for leaders at every level to be able to focus on training critical wartime tasks, a detailed METL analysis must first be conducted based on the unit's wartime mission. The objective should be development of an individual and collective task list, identifying those tasks which need to be trained on a regular basis to sustain combat skill proficiency. Once task lists have been identified, they need to be plugged into short and long range training plans by quarter (ideally one year out), so that resources can be allocated and "locked-in" well in advance. This process is nothing more than the Army's Battalion Training Management System (BTMS). To work, it must be fully understood by all unit leaders, and for that reason alone merits periodic review. Then it must have command emphasis during the initial execution

phase of the training plan. Once the training plan has been approved by the next senior commander, it must be protected by senior leaders to prevent infringement upon by distractors. The system can and does work, providing focus and allocating resources for the entire Bradley squad, to include the dismounted team. We must continually work at perfecting execution of BTMS in order to focus our training effort during critical time windows. Only then can we ensure enough training time on dismounted skills to preclude proficiency decay.

- Plan More FTX's: We've all heard the old sports adage, "practice makes perfect." Militarily, that concept translates into spending more time in the field for the purpose of enhancing the entire spectrum of combat skills. As it stands now, many mechanized battalions don't get to the field but once per quarter, and then only for a short period. Furthermore, even when in the field, it seems that most Bradley equipped units today spend more time on crew gunnery and maintenance than they do training the dismounted element. Lack of practice erodes skills. Consider, as a solution, conducting a monthly battalion FTX, programmed well in advance, with equal attention given to mounted and dismounted skills. The intent is to develop and sustain field skills by forcing

leaders to refine tactical mounted and dismounted operations while totally immersed in a field environment, as opposed to focusing solely on crew gunnery in a garrison environment.

- Use of Opportunity Garrison Training Windows for Dismounted Drill: During a given training day, there are normally one or two unprogrammed 10-20 minute periods which become available to the small unit leader for his use. Many of these moments occur in the motor pool, where frequently only the vehicle crew is really involved in the maintenance procedure, even though the training schedule requires the presence of the entire squad. Experience indicates that few small unit leaders ever take full advantage of this time for training. In fact, these same leaders frequently complain about not having enough time to train. 10-20 minute blocks add up to a considerable amount of potential productive time over the period of a week or month. We need to teach our junior leaders to, first, recognize the available time when it occurs, and, second, capture it for opportunity training. USAIS has published a whole series of squad battle drills for just such occasions. As an example, the drill might be as simple as dismount procedures from a Bradley in a tactical environment. Accompanying discussion could

and should include location of key weapon systems, vehicle location, leader location, etc. TA-50 and weapons are really not required for the execution of such drills, just a few precious moments with soldiers and leaders working together in minimal space. As another example, squad leaders can use these short periods for practicing dismounted maneuver adjacent to work detail areas, motor pools, or barracks areas. A simple exercise might involve a squad leader moving his squad tactically from Barracks A to Barracks B, constantly interjecting changes to the tactical situation as a means of drilling and refining fire and maneuver reaction. Simply stated, soldiers and their leaders do not need to train in the field **all the time** to improve tactical proficiency at dismounted skills. But small unit leaders can take full advantage of opportunity training windows to practice those drills which will make their units more proficient when in the field. Again, we must teach our small unit Bradley leaders to improvise, otherwise we mechanized infantrymen lose an entire dimension of our training program.

- Imagination on Qualification Ranges. Too often mechanized infantrymen at all levels cite sterile gunnery ranges, time availability, and the mechanized infantry gunnery tables themselves as factors which

detract from realistic dismounted infantry training. Again, this is especially true in Europe. Other related issues deal with the feasibility of the dismounted element being included as a part of mechanized infantry gunnery qualification, and if so, at what level of inclusion (squad or platoon?). I will address these issues later in this paper; for now I simply want to address how best to use existing ranges. The current mechanized infantry gunnery manual calls for inclusion of the dismounted element as optional on the squad qualification range. Due to scarce time resources, it is also frequently optional on the platoon qualification range. For the purpose of discussion, let's assume the dismount element has been included. First, having observed many squad and platoon qualification courses, I have found that most units execute an offensive scenario. Yet most U.S. Army mechanized units are tied to **defending** European soil. I suggest that units should consequently consider running defensive scenarios instead, keeping the offensive spirit alive through injection of counter-attack phases periodically throughout the defensive scenario. Secondly, most offensive scenarios that I have observed or discussed call for the dismounted element to remain mounted until the final objective has been reached. As I've mentioned

before, the dismount element normally dismounts, engages a limited target array, and moves back into the vehicle for the duration of the exercise. Little original thought is normally given to integrating a realistic dismounted phase into the overall exercise. Consequently, this type of exercise detracts from dismounted proficiency and enforces the learning of bad habits. Dismounted infantrymen must practice on live fire ranges how they intend to fight in combat. Consequently, leaders must design gunnery ranges to be as tactically realistic as possible. Imagination is the only limit! The best ranges I have observed have had a tactical scenario superimposed over gunnery requirements throughout any given table. Additionally, a number of dismounted phases were incorporated, allowing vehicle crews and dismounted teams to train together as integrated fire and maneuver elements, dependent on one another for survival. Simple tasks included such events as the dismounted element clearing a woodline while vehicle teams overwatched. Course flow was designed to make best use of vegetation and terrain if the small unit leader chose to use those assets to assist movement. Qualification evaluation also included not only a target hit count, but a subjective evaluation based on ARTEP standards for the dismounted element. When

short European winter days impacted on the number of squads capable of completing full daylight squad qualification runs before dark, range scenarios were designed to allow four vehicles on the course at one time, operating as a platoon (with the platoon leader in control), but evaluated as separate squads. The bottom line is that imaginative qualification ranges can go a long way in making dismounted live fire training more realistic and, consequently, more beneficial to sustainment of skill proficiency. We must improve in this area.

CHAPTER VII

ISSUES

When proceeding beyond the "immediate proposals" previously suggested, the situation becomes clouded by a variety of **issues** which bear on future training strategy, future unit organization for combat, and ultimately on future training for the dismounted element. While conducting research in this area, I came across a little known paper which was produced by the 3rd Infantry Division (3ID) in October 1987, subject: "Bradley Doctrine, Training and Organization."²⁵ I have taken the liberty to summarize portions of the document below which capture key issues and concerns described most frequently to me during research interviews with Bradley leaders from both CONUS and USAREUR units.²⁶ I have sequenced the issues as a means of justifying long range proposals and recommendations.

Issue 1: A dichotomy exists between current organizational training concepts and "element" fighting doctrine as outlined in FM 7-7J, "The Mechanized Infantry Platoon and Squad (Bradley)." The term "element" refers to the entire platoon dismount force (three teams) as one element, and the mounted force (four Bradleys plus crews) as another platoon element.

Discussion: FM 7-7J promotes both "independent" squad operations and combined "element" operations. Independent

squad operations call for the Bradley, vehicle crew, and dismount team to operate separately from the remainder of the platoon under command of the squad leader. Combined "element" operations call for all four Bradley crews and the three dismount teams to operate together under the leadership of the platoon leader when maneuvering mounted. When dismounted, the platoon leader leads the dismount element in most tactical situations, leaving the platoon sergeant in charge of the mounted element. In this case, supporting fires from the mounted element are to be coordinated by the platoon leader. In reality, training for both "independent" and "element" operations causes confusion, disunity of effort, is not practical doctrinally, and requires leaders to be in two places at once. It also requires both vehicle crews and dismounted teams to be constantly rotated between two or more leaders when training and in tactical situations. This impacts significantly on unit integrity and training proficiency. Closer analysis based on 3ID experience supports focusing on platoon "element" operations instead for the following reasons:

1. The squad dismount team is so small that it is seldom practical for it to operate independently. The best solution offering the optimum number of dismounted infantrymen is for the three dismount teams to operate together in nearly all circumstances

as an integrated dismount element under the charge of a single leader. Likewise, the four Bradleys operate best together under one leader where and when they can provide mutual support for each other as well as for the dismount element. FM 7-7J supports the use of employing mechanized forces by element.

2. Mounted and dismounted forces fight better on different types of terrain.
 - a. Even in a defensive mode, Bradleys require relatively open terrain where they can best take advantage of their long range weapons, while moving freely from primary to alternate firing positions, unencumbered by the dismounted element.
 - b. The dismount element fights best from dense covered and concealed locations for the close-in fight, supported by long range fire from the mounted element.
 - c. It is frequently awkward for vehicle and dismount element to operate from the same fighting position, because one hampers the other, reducing the effectiveness of each element's strength. The two elements operate best on terrain where they can compliment each other.
3. Training quality can be improved and best supported by focusing leader attention on the mounted and

dismounted elements as mutually supporting separate entities. This training concept allows enough flexibility for familiarity cross training as a means of improving mutual support.

4. Operating and training as separate elements offers a practical solution to the existing dichotomy, and builds trust, confidence, teamwork, and skill proficiency.

Issue 2: Leadership and time resources must be allocated in sufficient quantity to achieve proficiency in both mounted and dismounted skills.

Discussion: A survey of Bradley units indicates extreme difficulty in training both mounted and dismounted skills to standard. In fact, there are normally trade-offs. Some units focus on training Bradley crews to standard, allowing dismounted infantry skills to decay. Others focus on training the dismounted infantry, accepting a substandard Bradley crew capability. We can continue to train both, requiring all leaders to be proficient and responsible for both. However, when we do this, we must be willing to accept a low probability of sustaining equal proficiency in both. Or we can focus separately on the vehicle element and dismount element, dividing our squad level leaders and soldiers, requiring them to be responsible and truly proficient in either mounted or dismounted skills. 3ID experience points to the latter

option, with several clear advantages. We cut in half the number of tasks that each soldier must be proficient in during training. We maximize the available training time, since leadership would be available to exclusively focus on mounted or dismounted tasks. And the tactical question of which leader dismounts would be eliminated, since the NCO's designated to be dismount leaders would automatically dismount each time, while those leaders trained as members of the crew would remain mounted. Most importantly, we build leader-soldier confidence in one another and unit integrity/esprit through repetitive training. Units where this has been attempted have enjoyed increased sustained proficiency in both mounted and dismounted skills, and a focused leader training direction.

Issue 3: Develop a platoon training strategy which calls for training by "element" (dismounted element/mounted element), as opposed to training by squad.

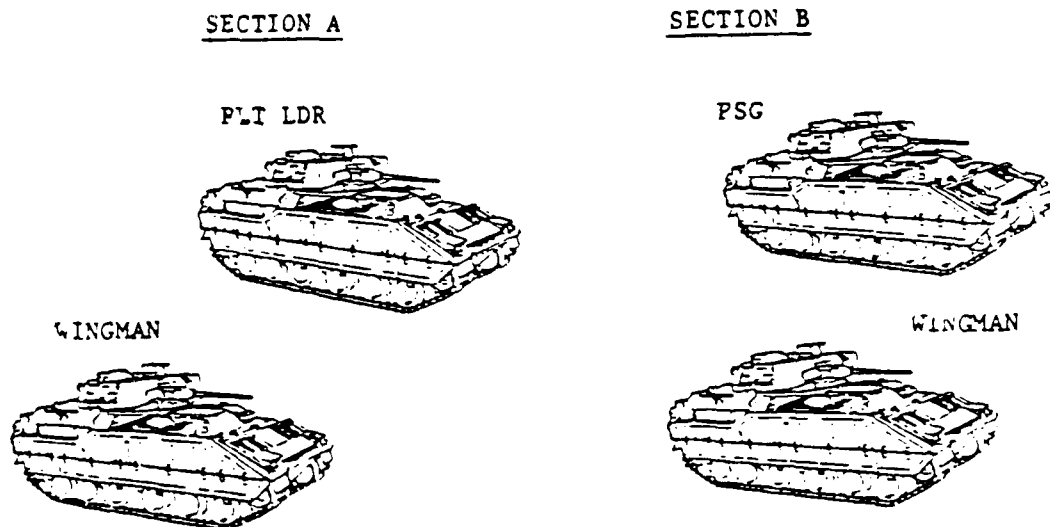
Discussion: Bradley units require a training strategy which can simultaneously produce quality vehicle crews and dismounted teams. As we have discussed previously, recent 3ID experience points to organization and training by element as the best way to assure quality through sustained proficiency of skills. The basic concept of this strategy calls for the two elements to train separately their respective mounted or dismounted functions (individual

and collective tasks), focusing training time on achieving proficiency in one function only. Cross training is limited to familiarization, enhancing the understanding of the synchronization essential between one function and the other. Collective tactical training is focused on reaching element proficiency. Combined mounted and dismounted training at the platoon level represents a culminating step (preparation for and execution of Table XII Platoon Qualification) in the training process. The organization into a fighting element structure produces NCO's in each element who can focus full attention on bringing their soldiers to collective proficiency. They can also more easily achieve and maintain personal proficiency since the number of tasks required of them is reduced significantly.

Issue 4: Platoon organization; Bradley platoon Table of Organization and Equipment (TOE) is inconsistent with the element fighting doctrine espoused in FM 7-7J.

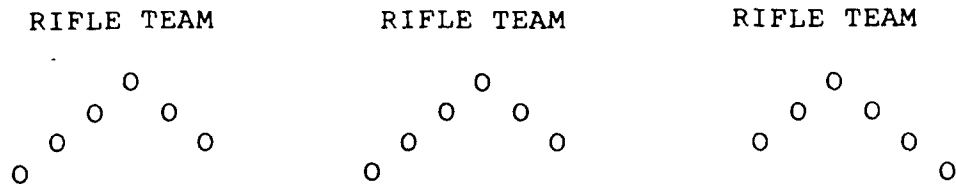
Discussion: Many of the issues previously discussed are the direct result of the incongruent structure of the current TOE. The Bradley TOE was not the result of a detailed combat analysis, but instead a simple lift from the M113 TOE. It is not conducive to supporting training proficiency, or employment in actual combat. 3ID believes that the following organizational proposals will better support combat operations:

1. Bradleys do not fight alone; to be effective, they must fight together in pairs, as a minimum in platoon strength. Recommend dividing each platoon into two sections with a leader and wingman in each section. As in armor operations, the wingman provides mutual support for the leader vehicle and vice versa, while Section A provides mutual support for Section B and vice versa.

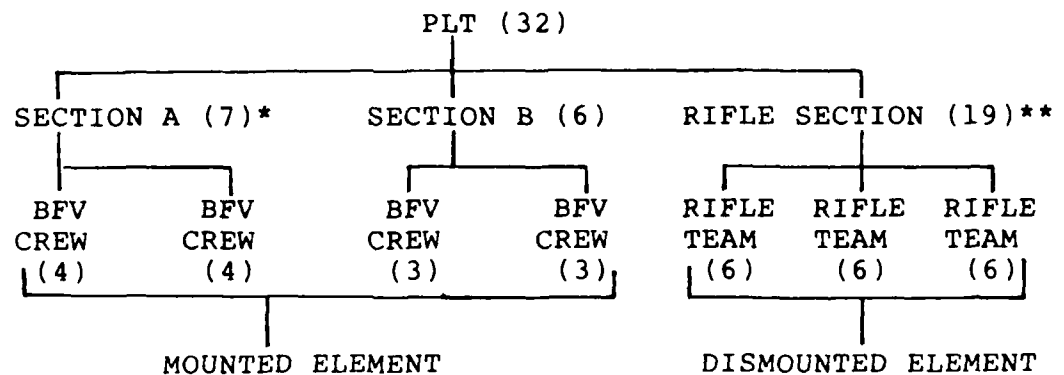


2. Likewise, squads will not fight alone, but as a combined platoon element. Recommend the dismounted element be designated as Section C.

SECTION C - RIFLE ELEMENT



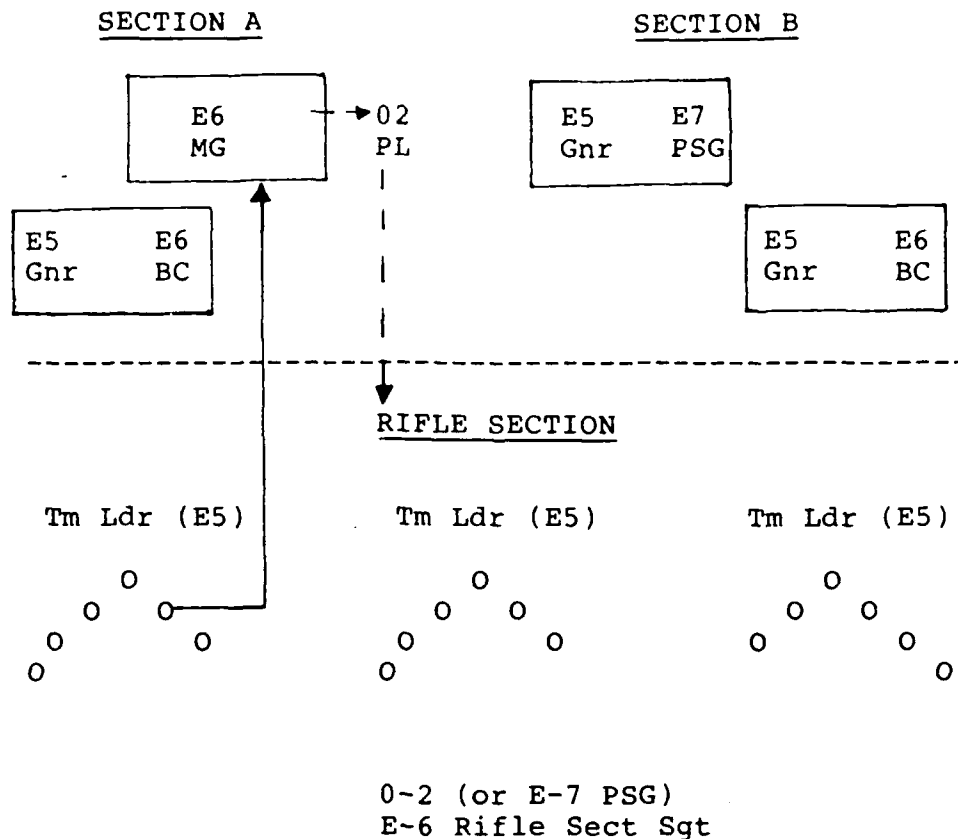
3. A platoon organization then would have three sections: two vehicle sections labeled "A" and "B" (each with a leader and wingman) and one Rifle Section. The subelements of the A and B Sections would be the Bradley crews; the subelements of the Rifle Section would be three rifle teams. The six man rifle team would train and fight under its dismounted team leader. The Bradley commanders (BC) would be responsible for their specific vehicle and crew.



* Includes Platoon Leader RTO

** Includes E6 displaced from PSG's Bradley

4. The platoon leader (PL) would control the "A" Section when mounted and the platoon overall. The platoon sergeant (PSG) would control the "B" Section when mounted; he would control both "A" and "B" Sections when the platoon leader dismounts.
5. When the rifle section dismounts to fight, either the platoon leader or platoon sergeant would lead it. A cross trained E4 from a rifle team would move into the gunner position on either PL or PSG BFV when one or the other dismounts.
6. Two E6's would be assigned to BC the wingman vehicles. They would be in control of the vehicle section when their leader (PL or PSG) dismounts.
7. Another E6 (the most experienced) would be assigned as the Rifle Section Sergeant. He would, like the rifle team leaders, have a dismounted function only. He would be the second-in-command on the ground under the PL or PSG and he would normally ride in the PSG BFV.



8. The ratio of leadership on the ground can be increased by using E4 gunners in two or three BFV's, providing for assistant team leaders on the ground. The gunner position, while currently slotted as an E5 position, is a "technical expert" role, not a leader role. The critical leadership challenge is on the ground.
9. NCO shortages would generally be absorbed by the wingman vehicles.
10. At the beginning of each training cycle, all platoon members would be battle rostered in either a BFV crew or in the rifle section. Their primary training

and combat responsibility would be to their assigned section. Cross training would occur both during the training cycle and as a natural result of progression (through several training cycles) from the rifle team to vehicle crew and back to rifle team leader positions.

11. Only the platoon leader and platoon sergeant would be required to perform in both the mounted and dismounted role in the course of a training cycle or combat mission.
12. This TOE could be adopted without any additions to grade spaces, personnel, or equipment (communications requirement, including secure means, would require evaluation).²⁷

3ID offered an additional platoon organization option based on a rifle team in all four platoon Bradleys. Since this organization was not as easily adaptable to current organization, nor popular with previous battalion commanders, I have not included that option in this paper.

Issue 5: Doctrinal Employment of Bradley Sections.

Discussion: Although the section level is regularly alluded to in FM 7-7J, it is virtually absent from other publications and from the training strategy in general.

The section level is a necessary building block in BFV training, leading to vehicle element proficiency; it is

recommended that it be incorporated into the training materials and philosophy of Bradley training.

Issue 6: Bradley Gunnery

Discussion: The current Bradley gunnery program is out of synch with the tactical fighting doctrine defined in FM 7-7J.

1. The gunnery program focuses at the squad level in the form of Bradley Table (BT) VIII. As discussed previously, this is an exceptional combat organization, and the wrong level on which to focus for combined execution of mounted and dismounted tasks.
2. BT VIII is and should be primarily a technical evaluation of crew/machine capability and interface. As such, it should be a crew level evaluation.
3. Likewise, the rifle team's fire distribution and control capability along with its marksmanship needs to be evaluated separately from the vehicle, since the use and control of their fires will usually be tactically separate from the vehicle.

The majority of Mech Infantry leaders I have discussed this issue with believe gunnery tables should focus on crews only from Table I through Tables XII A & B, injecting a new Table for crew section gunnery prior to Table XII. Simultaneously, the dismounted element would execute separate training and evaluation, moving progressively from small arms and crew served weapons basic marksmanship qualification, to rifle team

training and evaluation, to a dismount element exercise with subjective evaluation based on ARTEP standards prior to Table XII C & D. Both elements would then marry-up on Tables XII C & D as a "graduation exercise" with both target hit and subjective evaluations conducted. Proposed Bradley gunnery flowchart is at Appendix 1.

This gunnery concept takes the dismounted infantryman off mounted gunnery ranges, allowing Bradley crews to focus on the technical aspects of placing "steel on target." It also forces allocation of resources for the dismounted infantry training program. Most importantly, it allows both elements to become proficient at their skills before marrying-up as a team on Table XII C & D.

CHAPTER VIII

LONG RANGE PROPOSALS/RECOMMENDATIONS

Chapter VI listed proposals which, if implemented now, could bring renewed focus on dismounted infantry training in units as they are currently organized for training and war. Chapter VII discussed issues for consideration which could impact positively on future Bradley doctrine, organization, and training strategy. I strongly believe that these considerations, listed as proposals below, could breathe new life and sustained proficiency into both dismounted and mounted Bradley training. They will certainly enhance the quality of training for the dismounted infantryman so that, in the long run, he is no longer forgotten and becomes a more effective war fighter on the ground. Proposals/recommendations follow:

1. Adopt the "element" fighting concept and reflect that concept in appropriate doctrine and training manuals as well as in training resources allocated.
2. Adopt a platoon training strategy which focuses separately on the vehicle and dismount elements.
3. Adopt the platoon organization previously discussed which supports "element" training and fighting.
4. Incorporate fighting by sections into Bradley Doctrine, and reflect that concept in training strategy.

5. Alter Bradley gunnery strategy as follows:
 - a. Organize Bradley gunnery with separate vehicle and dismount sequences, combining both elements at platoon level (Tables XII C & D).
 - b. Design Tables I-XII A & B for Bradley crew only, with technical focus on crew gunnery skill evaluation through Table VIII, followed by the addition of mounted tactical subjective evaluation beginning with section gunnery.
 - c. Designate Table VIII A & B as crew qualification, and Table XII C & D as platoon qualification. Platoon qualification should include a combination of target hit evaluation plus subjective evaluation based on ARTEP standards.
 - d. Adopt a new training strategy for the dismounted infantryman based on designing a set of gunnery tables for the dismounted infantryman which focuses training and evaluation on progressive skill development from basic marksmanship, through rifle team, and later rifle element fire distribution, as well as tactical movement. Training/evaluation would culminate on Table XII C & D.
6. Infantry School: Analyze and evaluate each proposal for adoption and appropriate reflection in doctrine and training manuals.

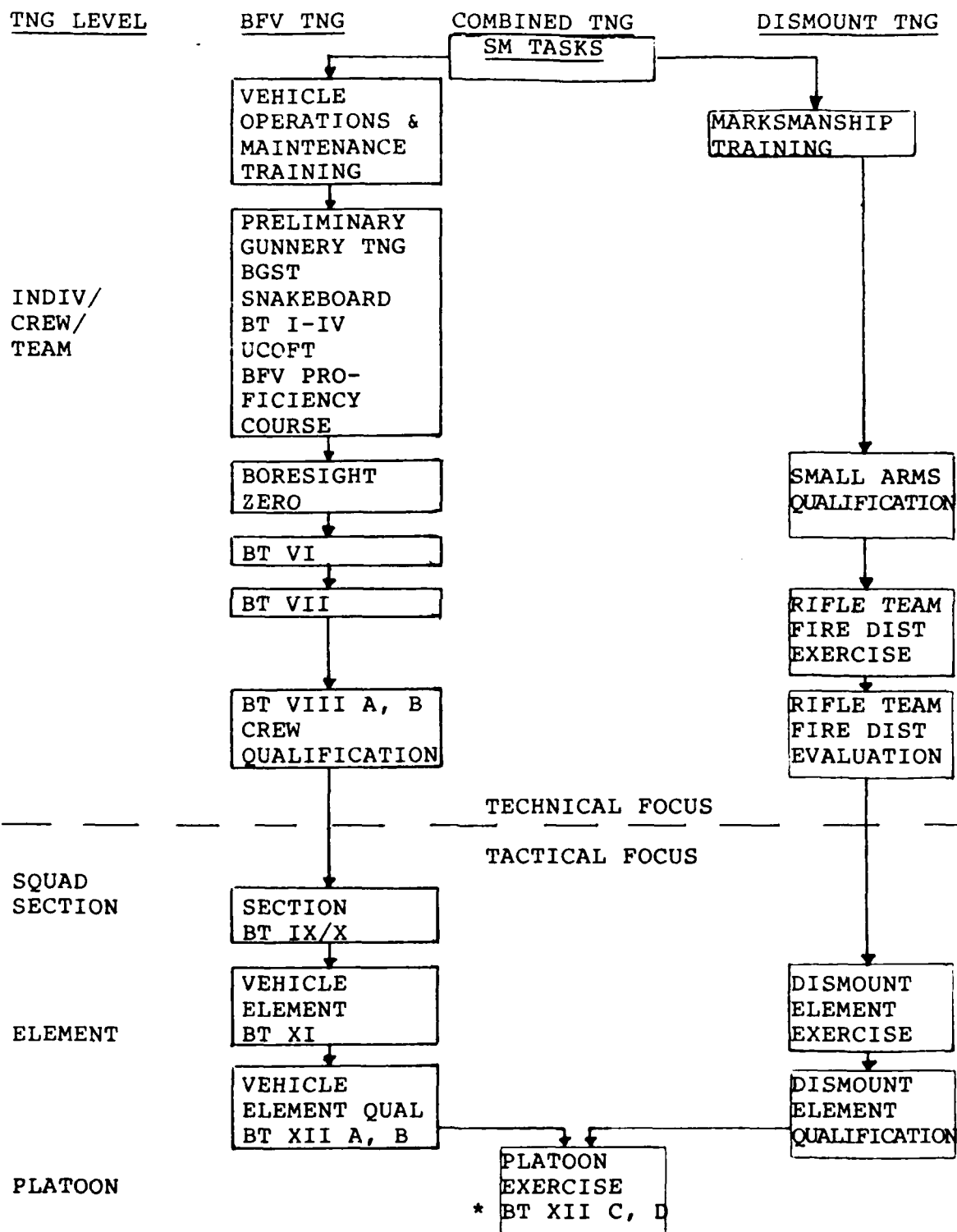
CHAPTER IX

CONCLUSION

The dismounted infantryman plays a significant role in today's AirLand Battle Doctrine, and it is a role which has been refined throughout the history of mounted warfare. However, the technical aspects involved in training Bradley crews detract significantly from traditional dismounted skill proficiency. We can regain some focus on dismounted skills by becoming better training planners and innovative trainers. But we must also consider modifying doctrine, organization, and training strategies. The dismounted infantryman must be provided with the training focus he needs in order to sustain his dismounted proficiency and win the next war on the ground.

APPENDIX 1

BRADLEY GUNNERY CONCEPT



*Target Hit and Subjective Evaluation
for the Mounted and Dismounted Element.

Footnote 27

FOOTNOTES

1. Headquarters, Department of the Army, FM 100-5 Operations, pp. 41-42 (hereafter referred to as "FM 100-5").

2. LTC Theodore R. Severn, Bradley Gunnery, Seminar with Former Mechanized Infantry Battalion Commanders, 14 Dec. 1987 (hereafter referred to as "Seminar").

3. John A. English, A Perspective on Infantry, p. xviii Prologue (hereafter referred to as "English").

4. English, p. 48.

5. English, p. 48.

6. English, p. 53.

7. English, p. 93.

8. English, p. 93.

9. English, p. 180.

10. English, p. 180.

11. English, p. 180.

12. English, p. 118.

13. English, p. 169, 170.

14. CHAIM HER 206, THE ARAB-ISRAELI WARS, p. 280.

15. FM 100-5, p. 41, 42.

16. "'More Boots on Ground' Tops Leuer Wish List," Army Times, 48th year, No. 31 (14 March 1988), 28 (hereafter referred to as "Leuer").

17. Leuer, p. 22.

18. LTC Theodore R. Severn, Squad Size, Staff Study (13 March 1981), pp. 1-3 (hereafter referred to as "Staff Study").

19. LTC Theodore R. Severn, Bradley Gunnery. Research trip, Ft. Benning, GA. 6-10 Dec. 1987 (hereafter referred to as "Trip").

20. Staff Study.
21. Leuer, p. 28.
22. Trip.
23. Headquarters, Department of the Army, FM 23-1
Bradley Fighting Vehicle Gunnery, pp. 10-1 through 10-78.
24. Seminar.
25. MG N. Krawciw, Bradley Doctrine, Training and
Organization Issues. Memorandum (6 October 1987), pp. 1-16.
26. Seminar and Trip.
27. Krawciw, p. E2.

BIBLIOGRAPHY

1. Bradley, Clifford D., "The Future IFV," INFANTRY (July-August 1980), 21-27.
2. Casey, Patrick, W., MAJ. Gunnery Training Strategy for a Bradley (M2) - Equipped Infantry Squad. Thesis. Fort Leavenworth, Kansas, 6 Jan. 1986.
3. D'Agostino, John F., CPT, "The Bradley Master Gunner," Infantry (March-April 1984), 9-10.
4. English, John A. A Perspective on Infantry. New York, New York: Praeger Publishers, 1981.
5. Foley, John E., SFC, "Observations on Mechanized Infantry," Infantry (July-August 1986), 29-33.
6. Friedrich, Robert L., LTC, "Net," Infantry (September-October 1984), 32-35.
7. Fuller, John D., LTC, "Training Strategy for the IFV," Infantry (September-October 1980), 15-19.
8. Hallenbeck, Ralph A., LTC, "Reorganize Platoon," Infantry (November-December 1983), 10-12.
9. Headquarters, Department of the Army. FM 7-7 The Mechanized Infantry Platoon and Squad (APC). Washington: 15 Mar. 1985.
10. Headquarters, Department of the Army. FM 7-7J The Mechanized Infantry Platoon and Squad (Bradley). Washington: 18 Feb. 1986.
11. Headquarters, Department of the Army. FM 23-1 Bradley Fighting Vehicle Gunnery. Washington: 30 Sept. 1987.
12. Headquarters, Department of the Army. FM 100-5 Operations. Washington: 5 May 1986.
13. Headquarters, 1-7 Infantry. Cottonbaler Gunnery SOP OPOD. Federal Republic of Germany: 1 May 1987.
14. Herzog, Chaim. The Arab-Israeli Wars. Random House, New York, 1982.

15. Holmes, David G., "The IFV of the Modern Battlefield," Infantry (September-October 1980), 10-14.

16. Krawciw, N., MG, CDR 3ID, Memorandum For: Commander, VII Corps, APO NY 09107-0200, Subject: Bradley Doctrine, Training and Organization Issues. Headquarters 30 Infantry Division, 6 Oct. 1987.

17. Little John, David R., SSG, "Squad Training," Infantry (July-August 1982), 50.

18. Marshall, S.L.A. Men Against Fire. Gloucester, Mass., Peter Smith, 1978.

19. "'More Boots on Ground' Tops Leuer Wish List." Army Times, 14 Mar. 1988, p. 10, 22, 28.

20. Segar, Robert P., CPT, "Employing the IFV," Infantry (September-October 1981), 33-37.

21. Severn, Theodore R., LTC, Bradley Gunnery. Research Trip. Ft. Benning, GA, 6-10 Dec. 1987.

22. Severn, Theodore R., MAJ. Mechanized Infantry Squad Size. Staff Study. Fort Leavenworth, Kansas, 13 Mar. 1981.

23. Severn, Theodore R., LTC, Bradley Gunnery. Seminar with Former Mechanized Infantry Battalion Commanders. Carlisle Barracks, PA, 14 Dec. 1987.

24. Uhle-Wetiler, Franz, BG. Battlefield Central Europe, Danger of Over Reliance on Technology by the Armed Forces. Federal Republic of Germany, 1987.

25. Willey, Barry E., CPT, "Where's the Commander," Infantry (July-August 1983), 7-8.

26. Wilson, Warren D., CPT, "Individual Training," Infantry (March-April 1982), 36-37.